

### **REMARKS/ARGUMENTS**

This Amendment is responsive to the Office action mailed on April 25, 2008 and to the telephonic Examiner's interview conducted on June 10, 2008 in connection with the above-identified patent application.

#### **The Office action:**

Referring now to the Office action mailed on April 25, 2008, the specification was objected to as, according to the Examiner, failing to provide proper antecedent basis for the claimed subject matter. In particular, according to the Examiner, claims 19 and 20 are directed towards a storage medium yet the phrase "storage medium" is not clearly defined in the specification.

Also in the Office action, claims 14-18 were rejected under 35 USC 101 as being directed to non-statutory subject matter.

Further, claims 1, 2, and 14-18 were rejected under 35 USC 103(b) as being unpatentable over US patent no. 6,665,684 to Zait, et al. (hereinafter "Zait") in view of US patent no. 6,845,375 to Sinclair (hereinafter "Sinclair").

Still further, claims 3-6, 8, 9, 11, and 12 were rejected under 35 USC 103(b) as being unpatentable over Zait in view of Sinclair, and further in view of US patent no. 6,965,891 to Jakobsson, et al. (hereinafter "Jakobsson").

Yet still further, claims 7 and 10 were rejected under 35 USC 103(b) as being unpatentable over Zait in view of Sinclair, in view of Jakobsson, and further in view of US patent no. 5,664,172 to Antoshenkov (hereinafter "Antoshenkov").

Lastly, claims 13, 19, and 20 were rejected under 35 USC 103(b) as being unpatentable over Zait in view of Sinclair, and further in view of US patent no. 6,014,656 to Hallmark, et al. (hereinafter "Hallmark").

**The specification is in proper form:**

Applicant has tendered an amendment to paragraph [0090] on page 32, beginning on line 10 to recite that the computer programs are suitably tangibly embodied in one or more computer-readable devices or storage media, such as memory, data storage devices, and/or data communications devices, thus making a computer program product or article of manufacture embodiment. Moreover, it is to be appreciated that the computer programs are comprised of instructions which, when read and executed by one or more computers, cause said computer or computers to perform operations to implement the programmed processes. Under control of the operating system, the computer programs may be loaded from the memory, data storage devices, and/or data communications devices into the memories of said computer or computers for use during actual operations.

It is respectfully submitted that independent claim 19 and claim 20 dependent therefrom has support for the phrase “storage medium” as provided by the specification as amended. No new matter has been added since claim 19 previously included the phrase “storage medium” as noted by the Examiner in the Office action.

Accordingly, it is respectfully submitted that the specification is in proper form and provides the proper antecedent basis for the subject matter recited in claims 19 and 20.

**Claims 14-18 recite patentable subject matter:**

Claims 14-18 were rejected in the Office action under 35 USC 101 because, according to the Examiner, the claimed invention was directed to non-statutory subject matter.

Applicant has tendered an amendment to independent claim 14 to recite a fragmented database embodied in a computer-readable storage media. The claimed database comprises a fragmentation scheme, and a plurality of database fragments. Support for the amendment is found in the specification at least in paragraph [0090] and elsewhere.

For at least the above reasons, it is respectfully submitted that independent claim 14 and claims 15-18 dependent therefrom recite statutory subject matter and are in condition for allowance under 35 USC 101.

**Claims 1-13 are in condition for allowance:**

Applicant has tendered an amendment to independent claim 1 to clarify the claim and in so doing to also distinguish the claim from the art of record. More particularly, independent claim 1 recites a method comprising fragmenting a database into a plurality of database fragments using a plurality of fragmentation expressions, processing a database query against the plurality of database fragments of the database, based on the boolean combination of said one or more comparison-predicates, and providing results of the processing to a user of the database. The fragmenting uses a fragmentation scheme constructed in terms of a plurality of fragmentation dimension basis functions. Each of the plurality of fragmentation expressions specifies a content of one of the plurality of database fragments. The fragmentation expression includes a boolean combination of a plurality of comparison-predicates, wherein each comparison-predicate defines a range of a fragmentation dimension basis function of one or more database fields. The database query is processed against the plurality of database fragments based on the boolean combination of the one or more comparison-predicates. The results of the processing are provided to a user of the database.

It is respectfully submitted and as discussed during the telephonic interview that neither Zait nor Sinclair alone or in combination teach, suggest or fairly disclose the invention recited in claim 1 as amended. In particular, none of the art of record shows the limitations of claim 1 including but not limited to a fragmentation expression which includes a boolean combination of a plurality of comparison-predicates, wherein each comparison-predicate defines a range of a fragmentation dimension basis function of one or more database fields. As discussed during the interview, the art of record shows, at most, simple comparison functions, such as date fields being before or after a selected time reference for example. The prior art of record does not teach or suggest plural comparison predicates combined using boolean logic and defining a fragmentation expression.

For at least the above reasons, it is respectfully submitted that independent claim 1 as amended is patentably distinct and unobvious over the art of record. Claims 2-13 depend from independent base claim 1.

**Claims 14-18 are in condition for allowance:**

Applicant has tendered an amendment to independent claim 14 to clarify the claim and in so doing to also distinguish the claim from the art of record. More particularly, independent claim 14 recites a fragmented database embodied in a computer-readable storage media. The database comprises: a fragmentation scheme and a plurality of database fragments. The fragmentation scheme includes one or more fragmentation dimension basis functions and a plurality of fragmentation expressions. Each fragmentation dimension basis function depends upon one or more database fields. Also, each fragmentation expression is defined by a boolean combination of a plurality of comparison-predicates wherein each comparison-predicate defines a range of at least one of the fragmentation dimension basis functions. With regard to the plurality of database fragments, each database fragment contains data satisfying a corresponding one of the plurality of fragmentation expressions, thereby enabling improved query efficiency by utilization of fragment elimination based on the fragmentation scheme during query processing which produces query results for a user of the database.

It is respectfully submitted and as discussed during the telephonic interview that neither Zait nor Sinclair alone or in combination teach, suggest or fairly disclose the invention recited in claim 14 as amended. In particular, none of the art of record shows the limitations of claim 14 including but not limited to a plurality of fragmentation expressions, each being defined by a boolean combination of a plurality of comparison-predicates, wherein each comparison-predicate defines a range of at least one of the fragmentation dimension basis functions. As discussed during the interview, the art of record shows, at most, simple comparison functions, such as date fields being before or after a selected time reference for example. The prior art of record does not teach or suggest plural comparison predicates combined using boolean logic and defining a fragmentation expression.

For at least the above reasons, it is respectfully submitted that independent claim 14 as amended is patentably distinct and unobvious over the art of record. Claims 15-18 depend from independent base claim 14.

**Claims 19 and 20 are in condition for allowance:**

Applicant has tendered an amendment to independent claim 19 to clarify the claim and in so doing to also distinguish the claim from the art of record. More particularly, independent claim 19 recites a storage medium encoding program code for performing database functions, the program code comprising program code for constructing a fragmented database and program code for inserting a new record into the fragmented database. The program code for constructing the fragmented database includes a plurality of database fragments each being defined by a fragmentation expression. The fragmented database has a fragmentation scheme constructed based on computed values of fragmentation dimension basis functions, each fragmentation dimension basis function being configured to compute the values based upon at least one database field. The fragmentation scheme is defined by a boolean combination of a plurality of comparison-predicates, in which each comparison predicate defines a range of selected ones of said fragmentation dimension basis function. The program code for inserting a new record into the fragmented database includes code for computing values of the fragmentation dimension basis functions using the at least one database field of the new record, selecting a target database fragment based on the fragmentation scheme and the computed values of the fragmentation dimension basis functions, and inserting the new record into the target database fragment.

It is respectfully submitted and as discussed during the telephonic interview that neither Zait nor Sinclair nor Hallmark alone or in combination teach, suggest or fairly disclose the invention recited in claim 19 as amended. In particular, none of the art of record shows the limitations of claim 19 including but not limited to the fragmentation scheme being defined by a boolean combination of a plurality of comparison-predicates, in which each comparison-predicate defines a range of selected ones of the fragmentation dimension basis function. As discussed during the interview, the art of record shows, at most, simple comparison functions, such as date fields being before or after a selected time reference for example. The prior art of

record does not teach or suggest plural comparison predicates combined using boolean logic and defining a fragmentation expression.

For at least the above reasons, it is respectfully submitted that independent claim 19 as amended is patentably distinct and unobvious over the art of record. Claim 20 depends from independent base claim 19.

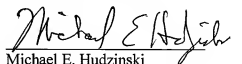
### CONCLUSION

In view of the above amendments, comments and arguments presented, it is respectfully submitted that all claims are in condition for allowance.

Allowance of all claims and early notice to that effect is respectfully requested.

If there are any fees necessitated by the foregoing communication, the Commissioner is hereby authorized to charge such fees to our Deposit Account No. 09-0460, referencing our Docket No. SVL920030114US1.

Respectfully submitted,



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